

# Vertical steam boiler

Packman one pass steam boiler PSB series are designed with simple mechanical structure via modern machinery and equipment to conform to the latest regulations of EN and DIN standards.

The PSB series are user friendly, and use the latest technology to meet every customer's needs.

Steam boiler room



Scan this code To access the Pakman product selection application and select this product.



Scan this code to receive a 3D product file.



More info about this product.

The vertical steam boiler is robust and economical. The furnace is formed by the fire tube. The flue gases are directed through topped smoke tubes .

Constructional design boiler is especially suitable for the combustion of liquid or gaseous fuels. It can, however, as well be used for solid fuels. Coal or wood performances.

### Fire tube:

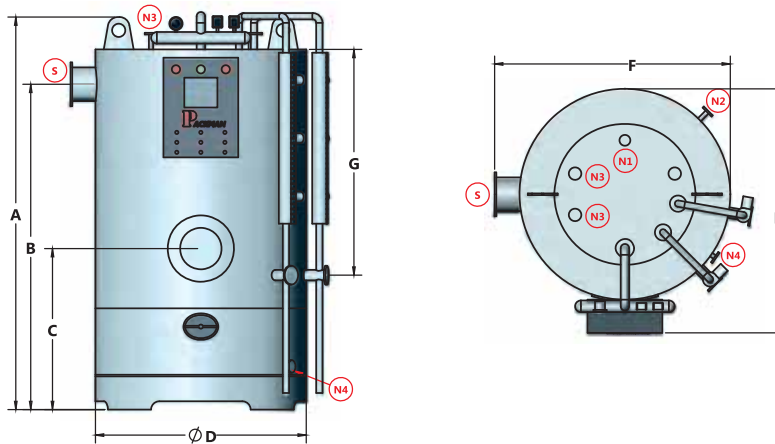
The chosen diameter makes sure that an unobjectionable flame can develop and a complete burnout is guaranteed. The decision whether plane or spiral fire tubes are to be used depends on the diameter and the working pressure. The arrangement in the inferior part of the water space has an especially favorable effect on the heat exchange and the water circulation, and allows a clear arrangement of the remaining flue gas passes. Boiler supports, skids: The boiler body is based on supports. Most of the unit are delivered on skids; by that special foundations for the installation are not required. In this case all accessories which are necessary for operation, such as oil or gas firing equipment, combustion air fan, oil preheater, control panel or switchboard and feeding device, can be mounted on the skid, too.

## Product Capacity Calculation & Selection:

The Steam boiler selected based on maximum require capacity and type of process  
The better way to select the capacity and pressure of the boiler is following below steps:

- 1- Calculate the maximum heat load based on your process.
- 2- Adding 20% to maximum load for coefficient of confidence.
- 3- Consider the 80% average efficiency for vertical steam boiler.
- 4- Calculate pressure based on your project and distance between boiler and consumer.
- 5- Determined the number of boiler you have: it is better you choose number of boiler for 100% of full load

Finally you can select the model from the table in bellow.



CAPACITY (kg/h)		100	150	200	300	400	500
Heating Surface (Sq. m)	--	37.2	46.2	55.7	63.3	74.3	89.2
Steam Volume (Cu. m)	--	0.65	0.73	1.24	1.4	1.61	1.78
Steam Output (ton/h @ 100 °C)	--	1.56	1.95	2.34	2.73	3.12	3.90
Output (kcal/h) [x1000000]	--	0.86	1.07	1.29	1.50	1.72	2.15
Pressure drop in boiler (mbar)	--	3.92	5.88	4.12	6.05	4.17	6.7

**APPROXIMATE FUEL CONSUMPTION AT RATED CAPACITY BASED ON NOMINAL 82% EFFICIENCY**

Firing Rate Gas (m3/h)	--	100	125	150	175	200	250
Firing Rate fuel oil (lit/h)	--	93.1	116.4	139.7	163.1	186.3	232.8
Firing Rate Heavy fuel oil (lit/h)	--	87.8	109.8	131.7	153.7	175.6	219.6

**HEIGHTS**

Overall	A	2030	2030	2030	2365	2365	2365
Stack to Ground	B	1660	1660	1660	1960	1960	1960
Burner to Ground	C	815	815	815	970	970	970
Boiler O.D.	D	800	880	950	1060	1170	1270
Boiler Head to LCB	E	930	930	930	930	930	930

**WIDTHS**

Overall	F	950	1035	1100	1210	1320	1420
	G	890	970	1030	1150	1260	1360

**CONNECTIONS**

Steam Outlet (@10 bar)	H	1"	1"	1"	1"	1"	1"
Feed Water Inlet	I	1"	1"	1"	1"	1"	1"
Safety Valve	J	2 x ¾"	2 x ¾"	2 x ¾"	2 x ¾"	1"	1"
Drain	K	1"	1"	1"	1"	1"	1"
Stack I.D.	M	6"	6"	6"	8"	8"	8"

**MINIMUM BOILER ROOM CLEARANCES**

Side Clearance	--	500	500	500	500	500	500
Boiler Room Length (Min.)	--						

**BOILER WEIGHT**

Shipping Weight (@10 bar)	--	660	760	860	1260	1480	1680
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● The measures and weights might be different from final product by less than 10%